

REMARKS

The claims are 1 to 9.

The above amendment is responsive to the rejection of claim 1 as indefinite in the use of the term "structure".

In reply, such term has been deleted as unnecessary.

Claims 1 to 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) Sybert et al. (U.S. 5,015,698); or

(b) European Patent Application 1 253 164 A1 (hereinafter EP '164)

in view of Japanese Patent Application 2003-0127796 (hereinafter JP '796) or Mayska et al. (U.S. 5,021,543) or Heitz et al. (U.S. 4,487,918).

Moreover, claims 6 to 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) Sybert et al. (U.S. 5,015,698); or

(b) European Patent Application 1 253 164 A1 (hereinafter EP '164)

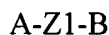
in view of Japanese Patent Application 2003-0127796 (hereinafter JP '796) or Mayska et al. (U.S. 5,021,543) or Heitz et al. (U.S. 4,487,918);

as applied to claims 1 to 5 above,

and further in view of Burnell et al. (U.S. 6,165,309).

These rejections are respectfully traversed.

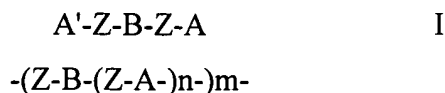
(1) Sybert et al. (U.S. 5,015,698) discloses compositions comprising copolymers having the following formula



where A is a polyphenylene ether moiety, B is a poly-(alkylene dicarboxylate) moiety, and Z is a linking group.

Sybert discloses a composition which is improved in the compatibility with a polyester resin by modifying a general PPE resin, i.e. a monofunctional and high-molecular weight PPE resin, with a polar group.

(2) European Patent Application 1 253 164 A1 (EP '164) discloses an aryl polyether based multiblock copolymers of the general formula I or II



B denotes a polyphenylene ether segment, A and A' denotes segments of hydroxyl, amino or hydroxylamino moieties, Z and Z' denote carboxylic acid moieties having a functionality of 2 and n and m have a value of at least 1 [0008].

EP '164 obtains a polyester copolymer by carrying out a reaction of a bifunctional PPE resin obtained by the redistribution reaction and a dicarboxylic acid compound and then further carrying out a reaction of the thus-obtained terminal carboxylic acid compound and a diol compound (Example 1).

It is shown that, when the bifunctional PPE resin obtained by redistribution is used, a satisfactory polyester resin cannot be obtained by only the direct reaction with dicarboxylic compound. This is because the molecular weight distribution is wide and a side reaction such as branching occurs.

In contrast to the above prior art, the present invention uses a bifunctional PPE oligomer having a specific structure and the present invention is attained by the finding that a novel polyester can be obtained by direct dehydration condensation of the above bifunctional PPE oligomer with a dicarboxylic acid compound.

Thus, the polyester resin of the present invention is unobvious from the conventional polyester resin, i.e. the polyester resin disclosed by EP 164. It is a novel polyester wherein the percentage of PPE unit in a main chain is increased.

Both Sybert et al. and EP '164 do not at all disclose or suggest polyester having the specific structure represented by the formula (5) provided by the present invention and recited in the present claims.

- (3) Mayska et al. (U.S. 5,021,543) disclose a process for the production of bifunctional polyphenylene ethers terminated by a hydroxyl group as shown in the formula (1) (claim 1).
- (4) Heitz et al. (U.S. 4,487,918) discloses a process for the production of bifunctional polyphenylene oxides as shown in claim 1.
- (5) JP 2003-12796 (JP '796) discloses a manufacturing method for a bifunctional phenylene ether oligomer as shown in the formula (1).

Each of the cited references (3) to (5) only disclose the process for the production of a bifunctional PPE oligomer but do not disclose or teach that polyester can be obtained therefrom and also do not disclose or teach the usefulness of the polyester obtained, at all.

(6) Burnell et al. (U.S. 6,165,309) disclose a method of increasing the adhesive strength between a metal foil and a substrate containing polyphenylene ether resin wherein the substrate comprises (i) a copolymer of a vinyl aromatic compound and an α , β -unsaturated cyclic anhydride admixed with (ii) the polyphenylene ether resin (claim 1).

Burnell et al. does not disclose or suggest the polyester having the specific structure of the present invention. Burnell et al. only discloses that the polyphenylene ether resin is used as a part of the substrate.

For the foregoing reasons, it is apparent that the rejections on prior art are untenable and should be withdrawn.

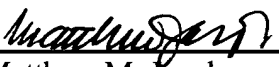
No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Daisuke OHNO et al.

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By: 
Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

MJ/kes
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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